

Amendments to the Drawings:

The drawing sheet has been amended to remove the caption "Figure 1".
The attached replacement sheet replaces the originally filed drawing sheet.

Attachment: Replacement Sheet
Annotated Sheet

REMARKS

Upon entry of this Amendment, Claims 1, 5 and 6 will be pending in the application. Claims 2-4 have been canceled. Non-elected Claims 7-12 have been withdrawn by the Examiner.

Claim 1 has been amended to more clearly recite that the injector includes a low pressure vessel, and a flow regulator between the low pressure vessel and the injection position, a source of pressurization coupled to the low pressure vessel for pressurizing the low pressure vessel, and a mechanism for maintaining the pressure in the low pressure vessel less than about 100 PSI, wherein the extruder is suitable for use in a method of making powder coatings at a pressure of less than about 100 PSI. Basis for the amended claim language is provided in the specification, for example, at page 3, paragraph [0008], as well as original Claims 2-4. No issue of new matter is presented.

Rejections Under 35 U.S.C. §103(a)

Claims 1-6 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Mizoguchi et al. (U.S. Patent No. 5,667,299) in view of Johnson et al. (U.S. Patent No. 4,344,710), Chang, et al. (U.S. Patent No. 5,318,431) and/or Rizvi et al. (U.S. Patent No. 5,120,559). These rejections are respectfully traversed.

The Office Action cites Mizoguchi as the primary reference, and acknowledges that Mizoguchi fails to teach an additive injector. The secondary references, that is Johnson, Chang, and Rizvi, are cited as allegedly overcoming this shortcoming. Chang and Johnson, however, are directed to processes, toner production and thermoplastic foam production respectively, in which a tremendous amount of pressure is generated during the extrusion process. This would be evident to one skilled in the art, and as also discussed, for example, in the Chang patent at column 5, lines 46 and 47 and in the Johnson patent, column 3, lines 9 through 12. Because of the very high pressure within the extruder, the injector in these systems must be similarly under very high pressure.

In contrast, the injector of the powder coating composition extruder as recited in amended Claim 1 is one that can be operated at a pressure of less than about 100 psi. It is significant that the present inventors have devised an extruder capable of making powder coatings at pressures of less than about 100 psi. Typically, the high pressures under which injectors are maintained, necessary to inject material into a highly pressured extruder cavity, have a significant safety risk. An extruder capable of forming a powder coating at pressures of less than about 100 psi is therefore a significant advance in the art. This is neither taught nor suggested by either the Johnson or Chang references alone, or in combination with Mizoguchi, as neither Johnson or Chang are concerned with the preparation of powder coatings and the unique requirements thereof; the references are similarly silent as to the desirability of having an apparatus that is functional at relatively low pressures; indeed, the art seems to discuss the ability of their apparatus to achieve even higher pressures.

Rizvi similarly appears to be concerned with a high pressure feed, as evidenced by the disclosure at column 4, lines 54 through 69 wherein reference is made to "super critical fluid", "a high pressure line", and the like, which suggests pressures well in excess of 100 psi. In any event, to render an invention obvious, particular reference relied upon must constitute "analogous art". (See, for example, *In re Clay*, 966 F.2d 656, 658-59; (Fed. Cir. 1992)). No one skilled in the art of powder coating production would look to the art of making dough in a food context; even if one did, the suggestion of use of very high pressure teaches away from the present apparatus.

As discussed in the background of the invention, the regulation of the parameters in a powder coating operation can be significant. An apparatus useful for the production of toner, thermoplastic foam, or dough is not necessarily readily adapted for use in the preparation of powder coatings, particularly if all of the former are directed apparatus that operate at high pressure, whereas the present invention is not.

Amendments to the Specification

Paragraphs [0006], [0010] and [0011] have been amended to replace "Figure 1" with "the figure" to reflect the drawing change in which "Figure 1" has been deleted from the sole figure in accordance with the provisions of 37 CFR 1.84(u). No issue of new matter is presented.

Paragraph [0011] has further been amended to add a sentence which describes element numbers 32 (main motor), 34 (gear box), 36 (motor) and 38 (base) shown in the figure as originally filed. These elements are well known to those skilled in the art and are shown in the original figure. No issue of new matter is presented.

Drawing Changes

The drawing was objected to under 37 CFR 1.84(u) because the sole drawing was labeled "Figure 1". Submitted herewith is an amended drawing sheet in which "Figure 1" has been removed from the sole drawing. An annotated version is also submitted herewith, showing the proposed change in red ink. Acceptance of the amended drawing is respectfully requested.

SUMMARY

For all of these reasons, it is submitted that the application is in condition for allowance. Accordingly, an early Notice of Allowance is respectfully requested.

Respectfully submitted,



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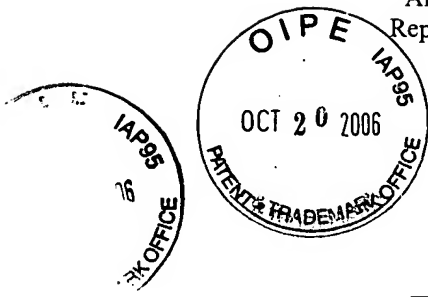


Figure 1

